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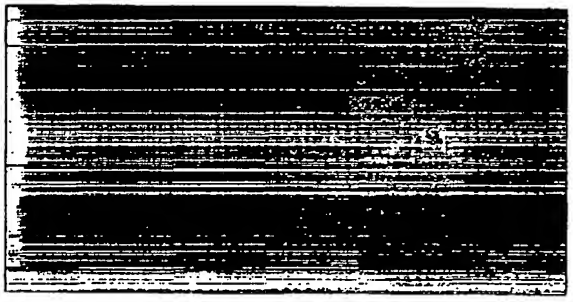
(54) Title: METHOD AND APPARATUS FOR INVESTIGATING HISTOLOGY OF EPITHELIAL TISSUE

$$Z = \frac{R_t(\lambda_1)}{R_t(\lambda_2)^l} \quad \text{(I)}$$

$$Z = \frac{R_t(c,h,\lambda_1)^j}{R_t(c,h,\lambda_2)^k} = \frac{R_t(\lambda_1)^j}{R_t(\lambda_2)^k} = \frac{R_t(\lambda_1)}{R_t(\lambda_2)^l} \quad \text{(II)}$$



Invasive BCC with the Z image on the right showing marked dermal involvement

(57) Abstract: A method for monitoring the presence of selected chromophores in a sample of epithelial tissue, independent of the amount of a predetermined chromophore, the method comprising: illuminating an area of tissue by projecting light from a light source of at least two different wavelengths λ_1, λ_2; receiving light remitted by the illuminated area of tissue at a photoreceptor; analysing the received light to identify and measure the proportion of light of each wavelength remitted from the tissue $I_r(\lambda)$; calculating the ratio of light at each wavelength returned from the tissue R_t, (λ) , and then calculating Z = Formula (I); where l is chosen such that Z is independent of the amount of predetermined chromophore. Typically l is calculated such that Z = Formula (II); where j and k are such that $2j\ \alpha(\lambda_1) = 2kj\ \alpha(\lambda_2) = 1$ where $a(\lambda_1)$ and $\alpha(\lambda_2)$ are the absorbtion coefficients for the predetermined chromophore at each wavelength.

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